

WHAT IS CLAIMED IS:

1. A stereoscopic microscope comprising:  
an optical objective lens for observation,  
transmitting luminous fluxes from objects;

5 an optical splitter to divide the luminous flux  
transmitted through the optical objective lens into at  
least two;

a lens body which holds the optical objective lens  
and the optical splitter;

10 an image forming device which is disposed on at  
least one optical path of the luminous fluxes divided  
by the optical splitter to form an observation image by  
the luminous fluxes; and

a support member for the image forming device  
15 which stride over at least a part of the optical path  
exposed to the outside of the lens body.

2. The stereoscopic microscope according to  
claim 1, wherein the optical splitter includes:

a beam splitter which divides one of the luminous  
20 fluxes from the optical objective lens; and

an optical image forming lens which forms an image  
by the luminous flux divided by the beam splitter, and

the image forming device is disposed in an image  
forming position of the optical image forming lens.

25 3. The stereoscopic microscope comprising:

an optical objective lens for observation,  
transmitting luminous fluxes from objects;

a lens body which holds the optical objective lens;

an image pick-up device which is disposed in the lens body to pick up the image of the luminous flux transmitted through the optical objective lens;

an electronic image projection device which projects the image photographed by the image pick-up device;

an image forming device which is disposed on the optical path of the luminous flux from the electronic image projection device to form an observation image by the luminous fluxes; and

a support member which supports the image forming device in such a manner that at least a part of the optical path of the luminous flux to the image forming device from the electronic image projection device exposed to the outside of the lens body.

4. The stereoscopic microscope according to claim 1, wherein the image forming device is a transparent type Fresnel lens.

5. The stereoscopic microscope according to claim 1, wherein the image forming device is a diffusion plate.

6. The stereoscopic microscope according to claim 1, which comprises a main body connected with the image forming device, a distance via which the image forming device is disposed opposite to the stereoscopic

microscope main body being variable.

7. The stereoscopic microscope according to claim 6, wherein the optical splitter is constituted to divide a luminous flux from the optical objective lens and to form an image by the divided luminous fluxes,  
5 and an image forming distance is changed by the optical splitter in accordance with the distance via which the image forming device is disposed opposed to the stereoscopic microscope main body.

10 8. The stereoscopic microscope according to claim 1, which comprises a main body for connecting the image forming device, an angle via which the image forming device is disposed opposite to the stereoscopic microscope main body being variable.

15 9. A stereoscopic microscope comprising:  
an optical objective system for observation,  
transmitting luminous fluxes from objects;  
a lens body which holds the optical objective system;

20 optical dividing means which is disposed in the lens body to divide the luminous flux transmitted through the optical objective system into at least two;

image forming means which is disposed on at least one optical path of the luminous fluxes divided by the optical dividing means to form an observation image by  
25 the luminous fluxes; and

support means for the image forming means, which

strides over at least a part of the optical path of the  
luminous flux to the image forming means from the  
optical dividing means to the outside of the lens body.

10. The stereoscopic microscope according to  
5 claim 9, wherein the optical dividing means includes:

a beam splitter which divides the luminous flux  
from the optical objective system; and

an optical image forming system which forms an  
image by the luminous fluxes divided by the beam  
10 splitter, and

the image forming means is disposed in an image  
forming position of the optical image forming system.

11. A stereoscopic microscope comprising:

an optical objective lens for observation,  
15 transmitting luminous fluxes from objects;

a lens body which holds the optical objective  
lens;

image pick-up means for picking up the image of  
the luminous flux transmitted through the optical  
20 objective system;

electronic image projection means for projecting  
the image photographed by the image pick-up means;

an image forming device which is disposed on at  
least one optical path of the luminous fluxes from the  
25 electronic image projection means to form  
an observation image by the luminous fluxes; and

support means for the image forming means in such

a manner that at least a part of the optical path of the luminous flux to the image forming means from the electronic image projection means is exposed to the outside of the lens body.

5           12. The stereoscopic microscope according to claim 9, wherein the image forming means is a transparent type Fresnel lens.

10           13. The stereoscopic microscope according to claim 9, wherein the image forming means is a diffusion plate.

15           14. The stereoscopic microscope according to claim 9, which comprises a main body for connecting the image forming means, a distance via which the image forming means is disposed opposite to the stereoscopic microscope main body being variable.

20           15. The stereoscopic microscope according to claim 14, wherein the optical dividing means is constituted to divide a luminous flux from the optical objective system and to form an image by the divided luminous fluxes, and an image forming distance is changed by the optical dividing means in accordance with the distance via which the image forming means is disposed opposite to the stereoscopic microscope main body.

25           16. The stereoscopic microscope according to claim 9, which comprises a main body for connecting the image forming means, an angle via which the image

forming means is disposed opposite to the stereoscopic microscope main body being variable.

17. An observation mechanism for use in a stereoscopic microscope, comprising:

5           a projection device disposed on an optical observation system of the stereoscopic microscope; and  
          an image forming device which is disposed opposite to the projection device through the outside space.

18. The observation mechanism for use in the  
10           stereoscopic microscope according to claim 17, wherein the projection device is an electronic image projection device.

19. The observation mechanism for use in the stereoscopic microscope according to claim 17, wherein  
15           the image forming device is a transparent type Fresnel lens.

20. The observation mechanism for use in the stereoscopic microscope according to claim 17, wherein the image forming device is a diffusion plate.

20           21. The observation mechanism for use in the stereoscopic microscope according to claim 17, wherein the image forming device is constituted to be connectable to the stereoscopic microscope main body, and a distance via which the image forming device is  
25           disposed opposite to the stereoscopic microscope main body is variable.

22. The observation mechanism for use in the

stereoscopic microscope according to claim 21, wherein  
an image forming distance is changed by the projection  
device in accordance with the distance via which the  
image forming device is disposed opposite to the  
5 stereoscopic microscope main body.

23. The observation mechanism for use in the  
stereoscopic microscope according to claim 17, wherein  
the image forming device is constituted to be  
connectable to the stereoscopic microscope main body,  
10 and an angle via which the image forming device is  
disposed opposite to a stereoscopic microscope main  
body is variable.